

REMARKS

In the Office Action dated November 19, 2003, the Examiner indicated that claims 9 and 10 were objected to and claims 9-21 were rejected. Applicants have herein canceled claims 9-21 without prejudice. New claims 22-28 are added, with claim 22 being the sole independent claim. Claim 22 is substantially similar to the corresponding independent claim (in foreign counterparts of the present application) that has been examined and allowed by patent offices in other jurisdictions. Applicants have decided to cancel claims 9-21 and add new claims 22-28 that more closely track the allowed claims in foreign counterparts of the present application. In connection therewith, Applicants submit a Request to Correct Inventorship. No new matter is introduced as a result of these amendments, support for which is found within the specification as filed. Applicants respectfully submit that the Examiner's objections and rejections of claims 9-21 as set forth in the Office Action are moot due to their cancellation, and that new claims 22-28 are allowable over the cited art for the reasons set forth below.

Applicants request correction of the designation of the applicable statutory provisions for the priority claim as set forth below.

A. Priority Claim

In the instant Office Action, the Examiner indicated acknowledgement of a claim for priority under 35 U.S.C. § 119(a)-(d) or (f). Applicants respectfully note that the above-captioned application is a continuation application of International Application No. PCT/SG00/00029, which was filed on February 21, 2000 and which designated the United States. Accordingly, priority for the above-captioned application is claimed under 35 U.S.C. §§ 120 and 365(c). Therefore, Applicants earnestly request the Examiner to indicate for the record that the proper statutory basis for the priority claim is 35 U.S.C. §§ 120 and 365(c).

The Examiner stated that the actual copy of the PCT application has not been filed. Applicants respectfully note that a certified copy of PCT/SG00/00029 was filed concurrently with the present application on March 9, 2001. The return postcard (copy attached) received from the USPTO acknowledged receipt of the certified copy of the PCT application. Nevertheless, Applicants would provide another certified copy of the priority document if the Examiner believes it is necessary and notify Applicants as such.

B. Claim Objections

Claims 9 and 10 stand objected to because of informalities. Applicants have canceled claims 9 and 10 herein. As such, the Examiner's objections have become moot.

C. Claim Rejections - 35 U.S.C. § 112

Claims 9, 13, 17-18 and 21 stand rejected under 35 U.S.C. § 112, ¶ 1 as failing to meet the written description requirement. Applicants have canceled claims 9-21. As such, the rejection of claims 9, 13, 17-18 and 21 is now moot. To the extent the newly added claims incorporate objected to portions of the canceled claims, those objections are addressed below.

D. New Claims 22-28 Are Fully Supported by the Specification as Filed

New claim 22 recites, in pertinent part:

22. A unitary portable data storage device which can be directly plugged into a universal serial bus (USB) socket of a computer and which is operative to function as an alternative to a magnetic disk or CD, and which is capable of storing software for installation to the computer or of receiving and storing user's data present in the computer, the unitary portable data storage device comprising:

a USB plug integrated into the unitary portable data storage device without an intervening cable capable of coupling the unitary portable data storage device directly to a USB socket on a computer;

(emphasis added).

The Examiner stated that the limitation “without cable interconnection” is not supported by the original specification. Applicants respectfully disagree and submit that the original specification discloses to a skilled artisan a unitary portable storage device that has an integrated USB plug (i.e., the plug is physically built as a part of – or, integrated into – a unitary device) that can be plugged directly into a USB socket of a computer without an intervening cable.

The original specification conveys to one skilled in the art that Applicants had possession of the claimed invention as recited in new claim 22, namely: a unitary portable storage device with a USB plug that is “integrated into the unitary portable data storage device without an intervening cable” so that the unitary portable data storage device can be “coupl[ed] directly to a USB socket on a computer.” Various portions of the original specification convey to a skilled artisan that the invention described in the application is a unitary portable storage device with an integrated USB plug (i.e., no cable between the USB interface controller and the USB plug). In addition, various portions of the application expressly teach that the integrated USB plug of the portable storage device is capable of being plugged directly into a USB socket on a computer (i.e., no connecting cable is needed between the USB plug of the unitary portable data storage device and the USB socket on the host). Given the teachings that the disclosed device is a unitary device whose integrated USB plug can plug directly into a USB socket on a computer, Applicants submit that a skilled person would understand that the invention disclosed in the present application is a portable storage device that connects to a USB port via an integrated USB plug without an intervening cable.

Applicants respectfully direct the Examiner’s attention to Figure 1 of the application, reproduced below. It shows a block diagram of a portable data storage device:

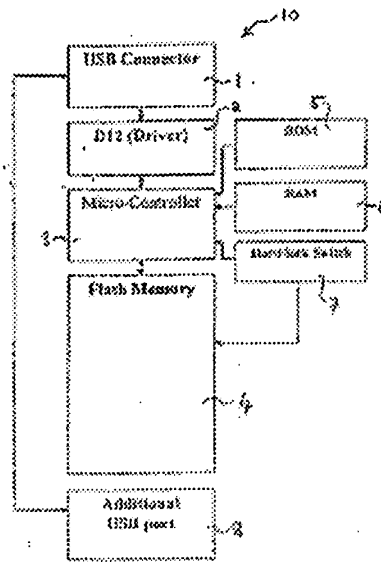


Figure 1 depicts a unitary portable data storage device 10 with an integrated USB plug 1. The specification states that "Figure 1 shows a data storage device 10 which includes a USB plug 1 which is coupled to a USB interface device 2. The USB interface device 2 is coupled to a micro-controller 3 which is coupled to a flash memory 4." Page 3, lines 22-24. Thus, the specification as filed teaches that USB plug 1, USB interface device 2, micro-controller 3 and flash memory 4 are to be coupled together. The specification also states that ROM 5 and RAM 6 are part of micro-controller 3. See page 3, line 24 to page 4, line 1; page 5, line 4. The specification never mentions using a cable in conjunction with the portable data storage device. Thus, the Applicants have clearly conveyed to those skilled in the art that Applicants were in possession of unitary portable data storage device having a USB plug integrated into the unitary portable data storage device without an intervening cable. Other references from the specification cited below confirm this teaching.

An advantage of a unitary portable data storage device having an integrated plug is that the device can be easily and conveniently plugged into and unplugged from a USB socket of a computer. Cumbersome connecting cables (between the USB plug of the device and the USB socket of the host) are not required. This is exactly what is taught in the present

application as filed. The specification repeatedly states that USB plug 1 itself is plugged into a USB socket on a computer. For example, the specification teaches: *“Firstly, the plug 1 of the device 10 is plugged into 20 to a USB socket on a computer. After the device 10 has been plugged into the USB socket on the computer, a communication is established between the computer and the device 10”* (italics supplied). See page 5, lines 18-21. See also page 6, lines 7-9 and 15-18.

As discussed above, the specification teaches that the disclosed device includes an integrated plug. The specification also teaches that the integrated plug of the device plugs directly into a USB socket on a computer. Taken together, these teachings in the original specification clearly convey to a skilled person that the disclosed integrated portable mass storage device connects to a USB port on a computer by way of the device’s integrated USB plug without an intervening cable. In view of the foregoing, Applicants respectfully submit that the limitation “a USB plug integrated into the unitary portable data storage device without an intervening cable for coupling the unitary portable data storage device directly to a USB socket on a computer” in new claims 22-28 is fully supported by the specification as filed.

To further support Applicants’ position, Applicants note also that the specification teaches “[i]f the installation of the software is complete, ... *the device 10 may then be removed [] from the USB socket on the computer*” (italics supplied). See page 7, lines 19-22. Applicants respectfully point out that this passage describes the device, rather than the plug, being removed from the socket. If the specification had intended to teach a device that requires a cable to connect to the USB socket, it would not have spoken of removing the device itself from the socket. Instead, it would have said “the plug 1 of the device 10 may then be removed.” This further confirms that the unitary portable storage device disclosed in

the original specification has an integrated USB plug, allowing the device to be plugged directly into the USB socket on a computer without an intervening cable.

In sum, the layout and the components depicted in the schematic block diagram of Figure 1 of the application teaches a USB-compliant unitary portable storage device having an integrated USB plug that does not require a USB cable for connection to a USB socket. In addition, teachings in the specification that the USB plug of the portable data storage device is plugged into the USB socket on a computer and that the device be removed from the USB socket after software installation, manifestly discloses a unitary portable data storage device having an integrated USB plug that does not require a USB cable for connection to a USB socket. As described in the specification, the integrated USB plug of the device is plugged directly into a USB socket of a host computer without an intervening USB cable and the unitary device sits as an appendage to the host computer. In view of the disclosure in the original specification as discussed above, Applicants respectfully submit that the limitation “a USB plug integrated into the unitary portable data storage device without an intervening cable capable of coupling the unitary portable data storage device directly to a USB socket on a computer” in the new claims is fully supported by the original specification.

In the instant Office Action, the Examiner stated, with respect to now canceled claims 17 and 21, that the degree of compactness claimed is not supported by the specification. Applicants respectfully disagree. As discussed above, the specification as filed discloses to a skilled artisan a unitary portable data storage device having an integrated plug that can be plugged into a USB socket of a computer without an intervening cable. The specification also teaches that the portable device is designed to be less bulky or, stated differently, more compact, than conventional portable storage devices such as magnetic disks and CDs. *See, e.g.,* page 1, lines 14-22 and page 9, lines 5-9. The schematic block diagram of Figure 1 shows the compactness of the portable device as disclosed. Construction of the portable mass

storage device using the components in Figure 1 results in a device about the size of a cigarette lighter. Moreover, given the well-known size of a magnetic disk, the teaching that the device is more compact than magnetic disks supports the degree of compactness claimed in new claim 28.

In view of the foregoing, Applicants respectfully submit that new claims 22-28 are fully supported and described in the specification as filed.

E. New Claims 22-28 Are Allowable Over the Cited Art

New claim 22, the sole independent claim now pending, recites:

22. A unitary portable data storage device which can be directly plugged into a universal serial bus (USB) socket of a computer and which is operative to function as an alternative to a magnetic disk or CD, and which is capable of storing software for installation to the computer or of receiving and storing user's data present in the computer, the unitary portable data storage device comprising:

a USB plug integrated into the unitary portable data storage device without an intervening cable capable of coupling the unitary portable data storage device directly to a USB socket on a computer;

a single interface, said interface *allowing the unitary portable data storage device to communicate via the USB protocol* and being *coupled to the USB plug*;

a memory controller; and

a non-volatile solid-state memory, said memory being non-removable from the unitary portable data storage device;

the memory controller being coupled between the interface and the memory to control the flow of data between the memory and the USB plug.

(emphasis added).

1. U.S. Patent No. 6,385,677 (hereinafter "Yao")

As detailed above, the present application describes and claims, among other things, a unitary portable data storage device having an integrated USB plug that can be plugged directly into a USB socket of a computer without an intervening cable. The specification also teaches a skilled person that the portable device, being more compact than magnetic disks and CDs and without moving parts, is a self-contained USB-compliant drive with an

integrated USB plug and an internal non-removable memory. Claim 22 and its dependent claims are directed to these aspects of the invention. The present invention, designed to facilitate the transfer of data from one computer to another, is highly desirable because it enables convenient direct connectivity between the portable storage device and a computer via the USB plug, without the usual clutter and complication of connecting a traditional peripheral device to a host computer. The unitary one-piece design and the elimination of connecting cables maximize the portability of the unitary data storage device. The near universal availability of USB sockets on computers and the compactness of the present invention makes it an ideal replacement of magnetic disks and CDs as a portable data storage device. *See, e.g.,* page 1, lines 6-22; page 9, lines 5-9.

The device disclosed in *Yao* is different from the present invention. It was designed for a fundamentally different purpose. *Yao* notes that memory cards are widely used by electronic products, such as digital cameras and personal digital assistants (PDAs), to store data. The stored data usually need to be made accessible to a computer for further processing or archival purposes (e.g., printing, displaying and storing of the images captured by the digital camera). However, such memory cards have card-specific interfaces (e.g., Smart Media, MMC, Memory Stick, Compact Flash, etc.) that are not available on a typical computer. *See Yao*, col. 1, ll. 26-50. *Yao* proposes a dual-interface memory card allowing the memory card to communicate with digital cameras and PDAs using a protocol designed for cameras and PDAs and, when used in combination with a separate adapter module, to communicate with a computer using the USB protocol. *See Yao*, col. 1, ll. 51-67. The title of *Yao*, "Dual Interface Memory Card And Adapter Module For The Same," succinctly summarizes the dual protocol, two-part device disclosed therein.

More specifically, *Yao* teaches a two-part device that includes a memory card 30 and a separate adapter module 40 as shown clearly in Figure 3 of *Yao*. Memory card 30 is

specifically designed so it can be directly inserted into a consumer device such as a camera or PDA without adapter module 40. Memory card 30 has a host interface controller that allows it to communicate with the camera or PDA using a protocol conforming to the SPI specification. Col. 2, lines 51-53. In contrast, memory card 30 cannot be directly inserted into a computer. *Yao* employs a separate adapter module 40 to connect memory card 30 to a computer. Adapter module 40 is a card receptacle having a USB plug but without any data storage or USB interface capability. The data storage and USB interface capabilities reside only with memory card 30. Standing alone, adapter module 40 has no data storage capability. Memory card 30 itself cannot be plugged into a USB port. A computer can communicate with memory card 30 via a USB port only when the card is inserted into the separate adapter module 40. *See, e.g.*, col. 4, ll. 9-15.

As noted above, *Yao* teaches a dual interface memory card that allows the memory card to communicate with two different types of devices. The host interface in the *Yao* memory card enables the card to communicate with an electronic product, such as a digital camera, while the USB interface allows the card to communicate with a computer by way of the adapter module as discussed above. The use of two different interfaces decreases the compactness, portability and ease of use of the *Yao* device and is in direct contrast to the claimed invention herein. The claimed invention, as amended, requires only a single interface, that interface allowing the unitary portable data storage device to communicate via the USB protocol. Thus, *Yao* fails to disclose or otherwise suggest the present invention as recited in claims 22-28.

The new claims are also directed to a unitary portable data storage device having an integrated USB plug that enables the unitary device to be coupled directly to a USB socket on a computer. In contrast, *Yao* teaches a two-part device that includes a memory card and an adapter module, both of which must be used together in order for a computer to access data in

the memory card. As such, Applicants respectfully submit that *Yao* fails to disclose or suggest the unitary portable data storage device as claimed, but rather teaches away from a unitary construction of the present invention by putting forth a two-part device.

Furthermore, in the present application, the claimed unitary portable data storage device has a memory that is non-removable from the storage device. To the contrary, *Yao* teaches away from the claimed invention by teaching a two-part device where the two parts are physically separable from each other. The *Yao* device is specifically designed such that the memory card can be freely removed from the adapter module for use in an electronic product like a digital camera. Since the non-volatile memory resides in the dual interface memory card of the two-part *Yao* device, the non-volatile memory is by definition removable from the two-part *Yao* device. This is yet another reason why *Yao* fails to disclose or otherwise suggest the present invention as claimed herein.

For at least the foregoing reasons, Applicants respectfully submit that new claims 22-28 are patentable over *Yao*.

2. U.S. Patent No. 6,038,320 (hereinafter "*Miller*")

As discussed above, the present application discloses and claims, among other things, a unitary portable data storage device having an integrated USB plug that is designed to be a self-contained drive that functions as a more compact and reliable alternative for traditional storage devices such as magnetic disks and CDs. This is the claimed subject matter of new claims 22-28. The present invention enables a large amount of user data to be stored and carried around in a compact, self-contained drive. It allows for easy and convenient transfer of data from computer to computer.

In contrast, *Miller* teaches a computer security key for providing security to a computer that has an external bus and is specifically programmed to function with the

security key. The security key must be coupled to the bus of the specially programmed computer for the computer to be operational. *See, e.g.*, col. 2, ll. 20-28; col. 4, ll. 42-51; Fig. 6, steps 130 and 140. *Miller* also teaches using a key code matching scheme and password checking to further prevent unauthorized access to the computer. *See, e.g.*, col. 4, line 51-col. 5, line 9; Fig. 6, steps 150 through 190.

Significantly, the security key in *Miller* is not a data storage device as claimed in new claims 22-28. Rather, the *Miller* security key is designed to serve a fundamentally different purpose than data storage, namely: access control for a computer with an external bus.

Miller does not teach or suggest the unitary portable storage device as claimed herein, which is operative to function as an alternative to magnetic disks and CDs. The only discussions in *Miller* relating to storage of information in the flash memory of the security key involve storing a unique key code and an encrypted password. A skilled artisan would understand that the security key in *Miller* is not a storage device and would only require minimal memory capacity to serve its intended purpose: storing a unique key code and an encrypted password, both of which are of limited size (e.g., *Miller* suggests that the password can be six bytes, *see* col. 3, ll. 42-43). In essence, the security key in *Miller* works simply as a “key,” restricting access to the protected computer unless the key is inserted into the matching “lock” on the computer’s external bus. The *Miller* security key, whose sole purpose is to restrict access to a computer, does not suggest to the skilled artisan how to make a storage device to replace or serve as an alternative to a floppy disk or CD as claimed herein.

For at least the foregoing reasons, Applicants respectfully submit that new claims 22-28 are patentable over *Miller*.

3. U.S. Patent No. 6,457,099 (hereinafter "*Gilbert*")

As discussed above, the subject matter of claims 22-28 is a unitary portable data storage device having an integrated USB plug, designed to be a self-contained drive that functions as a more compact and reliable alternative for traditional storage devices such as magnetic disks and CDs.

In contrast, *Gilbert* teaches a programmable dedicated application card (PDAC) that executes dedicated software application(s) stored in the PDAC and sends the results to a user via a host computer to which the PDAC is connected. *See, e.g.*, col. 1, ll. 45-62. *Gilbert* teaches that using a dedicated RISC processor in the PDAC to run software improves execution speed. *Gilbert* also teaches that by running the software on the PDAC instead of on the host computer, resources of the host computer are freed up for other tasks, thereby improving the host's performance. *See, e.g.*, col. 1, line 63 to col. 2, line 7. *Gilbert* states that a PDAC is its own stand-alone computer system, and the use of a PDAC functions as a hardware accelerator and enhances the capabilities of the host computer system. *See, e.g.*, col. 2, ll. 33-36; col. 3, ll. 21-26.

Significantly, the PDAC in *Gilbert* is not a storage device as claimed in the present application. Rather, as *Gilbert* itself states, the PDAC is designed to be a hardware accelerator, which is a fundamentally different apparatus than a unitary portable data storage device.

While the PDAC in *Gilbert* includes an EPROM and an EEPROM, they are designated only for storing dedicated software to be executed by the PDAC and a host control program, respectively. *See, e.g.*, col. 3, ll. 31-40. A skilled artisan reading *Gilbert* would understand that the PDAC is not a storage device and would not be used as such. As *Gilbert* succinctly put it, the PDAC serves as a "hardware accelerator," which increases software execution speed and improves host performance by offloading the execution of software

programs from the host onto the dedicated PDAC. The *Gilbert* PDAC does not suggest to the skilled artisan how to make a storage device to replace or serve as an alternative to a floppy disk or CD.

For at least the foregoing reasons, Applicants respectfully submit that new claims 22-28 are patentable over *Gilbert*.

F. Correction of Inventorship

Applicants submit concurrently herewith a Request to Correct Inventorship of the present application under 37 C.F.R. § 1.48(a), accompanied by all supporting documents and required fees. Consideration and grant of the request is earnestly requested.

G. Conclusion

Applicants respectfully assert that with the cancellation of claims 9-21, all of the informalities objections and the rejections based upon 35 U.S.C. §§ 102(e) and 112 have become moot. Applicants also respectfully submit that new claims 22-28 are fully supported by the specification as filed and are patentable over the cited art of record. Applicants respectfully seek confirmation that the priority claim has been entered under 35 U.S.C. §§ 120 and 365(c) and that the inventorship of the present application has been corrected as requested. If prosecution of this application can be expedited through a telephone interview, the Examiner is invited to call the undersigned attorney at the number below. Otherwise, early notification of allowance of new claims 22-28 is earnestly requested.

Attached hereto is a petition for extension of time for three (3) months. In connection therewith, the Commissioner is hereby authorized to charge the fee required under 37 CFR § 1.136(a) to White & Case LLP Deposit Account No. 23-1703. Applicants are unaware of any other fees due at this time. However, if other fees are due for this extension or any other matter concerning this response, the Commissioner is authorized to charge the fees to the above-listed Deposit Account.

Respectfully submitted,



Warren S. Heit (Reg. No. 36,828)
White & Case LLP
1155 Avenue of the Americas
New York, NY 10036-2787
(650) 213-0300

Dated: May 19, 2004